



Treatment efficacy of multiple family therapy in helping Hong Kong Chinese parents recover from depression

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This paper reports on the results of a clinical study that assessed the treatment efficacy of an adapted model of multiple family therapy (MFT) in helping Hong Kong Chinese parents recovering from depression. A total of sixty-one depressed parents were assigned to either the control group (CG) or the experimental group (EG) on the basis of their motivation and commitment to the MFT programme. Data were collected using standardised measures in the pre-treatment phase (T1), in the post-treatment phase (T2) and at a three-month follow-up (T3). No significant difference was found between the EG and the CG in regard to the effect of MFT on the parental and family functioning of the depressed parents. However, after the MFT, the EG depressed parents' level of psychological distress was significantly reduced, an effect which was sustained at 3-month follow-up. Clinical and research implications of the study are discussed.

Practitioner points

- Multiple family therapy (MFT) is useful for Hong Kong Chinese parents with depression in recovery
- Depressed parents' psychological distress was reduced after MFT
- Depressed parents with lower levels of education are likely to need support or interventions additional to MFT

Keywords: Treatment efficacy; multiple family therapy; Hong Kong; Chinese parents; depression

Introduction

About 4.4% of the global population suffers from depression (WHO, 2017), which has been found to be the second-leading cause worldwide

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of years lived with disability. In a Hong Kong study, 13.3% of Chinese adults aged 16–79 years ($n = 5,719$) were estimated to have mixed anxiety and depressive disorders (Lam *et al.*, 2015). The prevalence was higher among women than among men. People at higher risk of depression tended to be female, be divorced or separated, be alcohol abusers, be substance dependent, lack regular physical exercise and have a family history of mental disorder (Lam *et al.*, 2015).

Despite the debilitating effects of this disorder on individuals' well-being, less than 30% of people with depression in Hong Kong consult psychiatric services (Lam *et al.*, 2015). Under-treatment of people with depression may be attributable to psychological barriers such as family shame and stigma attached to mental disorder, as well as inaccessibility of mental health services and the service shortfall in society (Lam *et al.*, 2015). Two empirically based treatments, medication and cognitive-behavioural therapy (CBT), have been commonly employed in helping people with depression in Hong Kong (Wong, 2008). While these two treatments have helped this clientele, they have neither addressed these families' difficulties nor utilised family strengths to facilitate recovery.

For parents with depression, the disorder may impair performance of parental roles, increase parenting stress, reduce quality of parent–child interactions and escalate spousal disagreement and conflicts, which in turn may result in poorer family functioning (Keitner and Miller, 1990). The role impairment may prevent depressed parents receiving support from family members and friends; hence, they are more likely to feel increasingly socially isolated (Turney, 2012). The negative impact of the disorder on multi-faceted aspects of family life may accumulate and multiply, bringing pain and suffering to these families even if the parents do not have serious depression.

Protective factors – such as a healthy and supportive spouse, positive activities and interactions, exposure to positive models of problem-solving and interpersonal behaviour, and open communication between parents and children about depression – may mitigate the serious consequences of depression on families of depressed parents (Riley *et al.*, 2008). Viewed as family competence or resilience, these protective factors enable families dealing with parental depression to better cope with the disorder and prevent relapse. In the light of a strengths-based perspective, family therapists' goal of helping should be dual focused: (a) alleviating symptoms of depression, and (b) enhancing family competence (Keitner and Miller, 1990; Letourneau *et al.*, 2013).

Multiple family therapy (MFT) is a therapeutic method that brings together several families affected by the same pathology (Gelin,

Cook-Darzens and Hendrick, 2017; p. 2). MFT has been shown to be effective in symptom reduction for hospitalised adults with depression, and in prevention of hospitalisation upon relapse (Lemmens *et al.*, 2009). Besides symptom reduction, past clinical studies (e.g. Valdez *et al.*, 2013) have shown the power of MFT to cultivate and promote protective factors such as increased family functioning and spousal support at multi-systemic levels: individuals, intra-familial and inter-familial.

Despite the overseas evidence, little is known about the applicability of MFT to this clientele in Hong Kong, let alone its treatment efficacy. To bridge the knowledge gap, this paper describes the MFT model developed for Hong Kong Chinese families of parents in recovery from depression and reports on the results of a clinical study that assessed the treatment efficacy of MFT from the depressed parents' perspective. These research outcomes will better inform family therapists of the clinical utility of MFT to combat parental depression.

Strengths-based multiple family therapy for parental depression

MFT was selected to help families with parental depression because it is empirically based (e.g. Gelin *et al.*, 2017; Lemmens *et al.*, 2009) and more cost-effective than other models of therapy. More importantly it is compatible with our research team's professional belief, that is that families can be their own healers.

Believing that families are resourceful and competent, MFT stems from family therapy and group psychotherapy (Asen and Scholz, 2010). Family changes may occur in multiple interactional contexts (e.g. intra-familial, interfamily and cross-generational) that are co-created by the group leaders and the families at different stages of the group. The process of change is related to the creation of therapeutic factors – group cohesion, cross-generational communication, hope, multiple perspectives, mutual help and mutual support (Asen and Scholz, 2010). Although the treatment efficacy of MFT for children with attention-deficit hyperactivity disorder in Hong Kong (ADHD) has been shown in Ma *et al.*'s study (2018), knowledge is lacking on whether MFT would be helpful for Hong Kong families facing parental depression.

Modified from Ma's model of MFT (2018), the 3-month MFT programme for families with parental depression consisted of a psycho-educational talk, four-day group activities and two half-day reunions, totalling 42 hours. The reunions were scheduled at a one-month interval for families with parental depression. The MFT programme aimed to promote these families' resilience to better cope with the undesirable

effects of the disorder on various aspects of family life and to enhance intergenerational dialogue, provide quality family time and foster mutual help and support among the families (Ma *et al.*, 2019).

To respond to the psychosocial service needs of families with a depressed parent, the following principles were adopted in designing, developing and implementing the MFT programme: (a) the themes of the group activities were closely linked to the effects of the disorder on family life, rather than on the pathology of the depressed parent/s; (b) collaboration and co-operation among the families was emphasised; (c) a safe haven was cultivated to promote intra- and inter-family communication; and (d) the group activities were linked to critical life events (e.g. a suicide attempt) which had occurred during the MFT intervention.

A total of eight MFTs were offered for this clientele. The programme of these eight groups was similar, except for the venue. Four groups were run on campus; the other four were organised in the agency, as the majority of the families were living nearby. To increase participation of working spouses and children, the MFT was usually held at the weekend between 10:00 a.m. to 4:00 p.m. The daily programme of the MFT included ice breaking games, an intra/interfamily activity (e.g. family story, treasure hunting), a group lunch, parallel groups of parents' sharing and children's activities, and appreciation and feedback. Our clinical team (first, second and third authors) led two groups in the pilot phase. A team of ten agency social workers and their agency supervisor (the fourth author of this article) with rich experience in mental health services were the group leaders of six groups.

We transferred the knowledge and skills of MFT to the agency social workers through systematic training delivered at a two-day workshop before the start of the project; participant observation of the social workers in the pilot phase; a two-day workshop immediately after the completion of the pilot phase; and live coaching and professional supervision by the third author in the second phase of the study (Figure 1). Ethical approval was given by the University Ethical Committee for this study, with written consent obtained from parents for data collection.

Hypotheses of the study

On the basis of the literature, we predicted that, in comparison to the control group (CG), upon the completion of MFT, (i) symptoms of the depressed parents in the EG would become less serious; (ii) parent-child relationships of the EG depressed parents would improve; (iii) parenting stress of the EG depressed parents would decrease; (iv) family

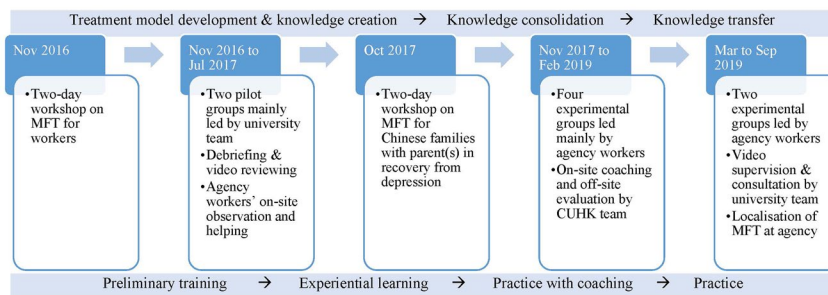


Figure 1. Process of knowledge transfer.

functioning of the EG depressed parents would improve; and (v) the EG depressed parents' perceived social support would be higher, with the positive changes sustained for at least three months.

Method of study

Participants

About 140 adults voluntarily attended three psychoeducational talks on depression and the family, jointly organised for recruitment purposes by our research team and the collaborative agency. These talks were promoted among service users of the agency and through the website of the authors' research centre as a way to learn about overcoming depression. A total of 111 participants met the inclusion criteria – that is, they had been diagnosed with depression – but only sixty-one parents joined our study (Figure 2).

Assignment of the parents to the CG and the EG was based on their motivation, which was assessed in terms of their willingness to look for alternative way of coping with the disorder, and commitment to the MFT programme. The EG was comprised of thirty-seven parents, but only thirty-four parents (four fathers and thirty mothers) completed the questionnaire at T1 and T2. The CG consisted of twenty-seven parents (five fathers and twenty-two mothers). In the pre-treatment phase, seventeen healthy spouses (five wives, twelve husbands; ages ranging from 31 to 51 years or above) and fifty-one children (thirty-one boys, twenty girls; ages ranging from 8 to 18 years) participated in the MFT with the depressed parents of the EG; there were twelve healthy spouses (one wife and eleven husbands; ages ranging from 36 to 51 years or above) and twenty-five children (thirteen boys, twelve girls; ages ranging from 8 to 18 years) in the CG.

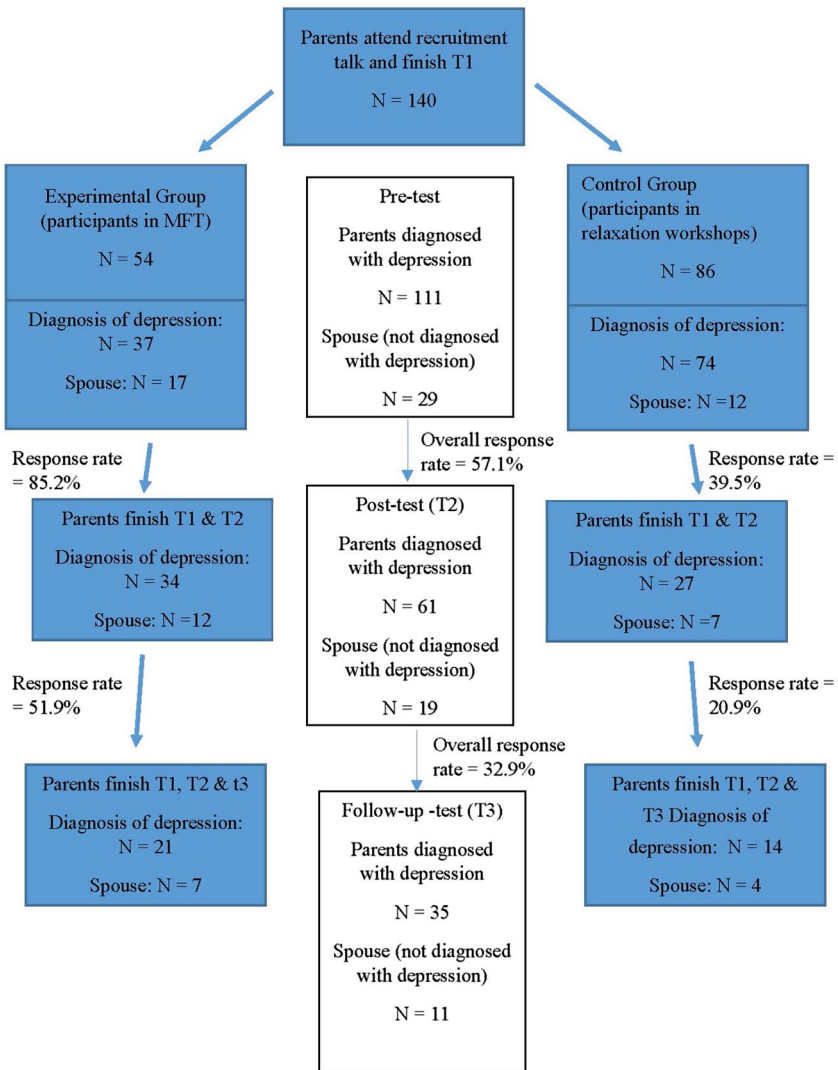


Figure 2. Flow chart of the sample size.

An MFT intervention was offered to the EG parents, whereas the CG parents attended two workshops on relaxation at a 3-month interval, a schedule similar to that of the EG.

Most of the depressed parents were female ($n = 52$, 85.2%), were in their forties ($n = 26$, 42.6%), came from an intact marriage ($n = 31$, 51.7%), and had two children ($n = 28$, 47.5%). About 70% of the parents were secondary-school graduates ($n = 42$); 54.1% of them were unemployed ($n = 33$). About 73.7% had monthly household incomes below the median household income (HK\$28,600; £2,860) (Hong Kong SAR Government, 2018). Around 42.6% ($n = 26$) of the parents had been born in mainland China, that is, they were migrants to Hong Kong.

Chi-square test results showed that the CG and the EG had similar social-demographic characteristics, except for birthplace, with more EG depressed parents coming from the mainland. Forty-two parents (68.9%) were on medication and fifteen parents (24.6%) were not, with four not responding (Table 1).

Data collection

Parents were assessed three times (T1, T2, T3) with the aid of a self-administered standardised questionnaire. T1 data for the EG were collected at the pre-group interview or before the start of the psychoeducational talk. T2 data were collected immediately upon the completion of the MFT. T3 data were collected three months after the MFT. T1 data of the CG were collected before the start of the psychoeducational talk. T2 and T3 data were collected at the two relaxation workshops, respectively, which were scheduled three months apart.

The EG response rate was 85.2% at T2 and dropped to 51.9% at T3. Although these depressed parents did not complete the questionnaire, they continued to participate in the MFT. The response rate of the CG was 39.5% at T2 and dropped to 20.9% at T3 (Figure 2). Cases were counted as valid for analysis only when data had been collected at all three points.

Measures

This study adapted six standardised measures to assess the parents: psychological distress, parent-child relationship, parent's sense of competence, parenting stress, family functioning and perceived social support.

The Brief Symptom Inventory (BSI), adapted from the Derogatis Symptom Checklist revised (SCL-90-R), is a widely used measure of high validity and reliability to assess self-reported psychological distress and symptoms in both clinical and community populations in different societies (Derogatis, 2000). The short version adopted in this study

TABLE 1 Socio-demographic characteristics of parents with depression

	Overall (N = 61)		Control Group (N = 27)		Experimental Group (N = 34)		Chi-square Test of group differences	
	No	%	No	%	No	%		
Sex							χ^2 (df)	
	Male	9	14.8%	5	18.5%	4	11.8%	.546 (1)
	Female	52	85.2%	22	81.5%	30	88.2%	
Age	≤30	1	1.6%	1	3.7%	0	0.0%	6.064 (3)
	31-40	23	37.7%	8	29.6%	15	44.1%	
	41-50	26	42.6%	10	37.0%	16	47.1%	
	≥51	11	18.0%	8	29.6%	3	8.8%	
Marital status	Married	31	51.7%	13	48.1%	18	54.5%	3.973 (3)
	Divorced	22	36.7%	9	33.3%	13	39.4%	
	Widowed	4	6.7%	2	7.4%	2	6.1%	
	Others	3	5.0%	3	11.1%	0	0.0%	
Number of children	1	26	44.1%	11	44.0%	15	44.1%	1.214 (2)
	2	28	47.5%	13	52.0%	15	44.1%	
	3 or above	5	8.5%	1	4.0%	4	11.8%	
Educational background	Primary or below	7	11.7%	4	15.4%	3	8.8%	.800 (3)
	Junior secondary	21	35.0%	9	34.6%	12	35.3%	
	Senior secondary	21	35.0%	8	30.8%	13	38.2%	
	University or above	11	18.3%	5	19.2%	6	17.6%	
Employment status	Full-time	13	21.3%	7	25.9%	6	17.6%	1.819 (2)
	Part-time	15	24.6%	8	29.6%	7	20.6%	
	Unemployed	33	54.1%	12	44.4%	21	61.8%	

(Continues)

TABLE 1 (CONTINUED)

	Overall (N = 61)		Control Group (N = 27)		Experimental Group (N = 34)		Chi-square Test of group differences χ^2 (df)	
	No	%	No	%	No	%		
Monthly household income	<HK\$8,000 (£800)	18	31.6%	8	33.3%	10	30.3%	.525 (4)
	HK\$8,000 (£800)	24	42.1%	9	37.5%	15	45.4%	
	HK\$18,000 (£1,800)	6	10.5%	3	12.5%	3	9.1%	
	HK\$28,000 (£2,800)	5	8.8%	2	8.3%	3	9.1%	
	>HK\$38,000 (£3,800)	4	7.0%	2	8.3%	2	6.1%	
Birthplace	Local	30	49.2%	17	63.0%	13	38.2%	8.184(1)**
	Mainland China	26	42.6%	5	18.5%	21	61.8%	
	Missing	5	8.2%	5	18.5%	0	8	
Medication	Yes	42	68.9%	19	70.4%	23	67.6%	.123 (1)
	No	15	24.6%	6	22.2%	9	26.5%	
	No response	4	6.6%	2	7.4%	2	5.9%	

* $p < .05$; ** $p < .01$; *** $p < .001$.

incorporates eighteen items (BSI-18 in short) that assess the three most common aspects of psychological distress – anxiety, somatisation and depression – with each subscale consisting of six items. Parents were asked to rate on a five-point Likert scale (from 0 = not at all to 4 = extremely) how distressed they had felt by each symptom during the past week. The internal consistency for the BSI-18 ranged from .74 to .90 (Recklitis and Rodriguez, 2007). Its reliability in this study was highly satisfactory, with Cronbach's alpha = .96.

The Parent–Child Relationship Scale (PCR) was adapted from Fine, Moreland and Schwebel's (1983) PCR scale, which assesses the parent–child relationship from the parental perspective. The adapted scale comprises seven items that assess the parent's perceived emotional closeness with his/her child, the amount of trust the child feels toward the parents, the clarity of the maternal/paternal role, the degree of anger toward the child, the degree to which problems are faced by discussing them with the child, and the feeling of being respected and appreciated by the child. Parents were asked to respond to the questions on a five-point Likert scale (1 = never; 5 = always), with higher scores denoting a better parent–child relationship. The Chinese version had good reliability in a past study (Ma *et al.*, 2018). Cronbach's alpha of PCR in this study was .70, indicating satisfactory reliability.

The Parenting Sense of Competence Scale (PSOC) was developed by Gibaud-Wallston and Wandersman (1978) and modified by Johnston and Mash (1989). The scale has seventeen items in two subscales – 'efficacy' (PSOC-*efficacy*) and 'satisfaction' (PSOC-*satisfaction*) – with satisfactory reliability (Cronbach's alpha = .76 and .75 respectively). Each item is answered on a five-point Likert scale, ranging from '1 = strongly agree' to '5 = strongly disagree', with two additional options, 'don't know' and 'not applicable'. Scoring for some items is reversed so that, for all items, higher scores indicate higher parenting self-esteem and satisfaction. In this study, Cronbach's alpha of PSOC was .60, indicating marginally satisfactory reliability.

The Parenting Stress Index (PSI) was modified from the Swedish Parenthood Stress Questionnaire (Ostberg and Hagekull, 2000), with a shorter version ($n = 10$ items) used to measure parenting stress in this study. Nine items from the original PSI were used to measure parenting stress in the following domains: feelings of incompetence, role restriction, social isolation, spousal relationship, and health. In view of the possible financial burden of childcare on the family, an additional item, 'Do you agree that, with the birth of the child, your family has encountered financial difficulty?', was added (Ma, Wong and Lau, 2009). All

items were rated on a five-point Likert scale from '1 = strongly disagree' to '5 = strongly agree', with two additional options, 'don't know' or 'not applicable'. Higher scores denoted higher levels of stress in parenting. The Chinese version of PSI was used in a past study with satisfactory reliability (Ma *et al.*, 2009). Cronbach's alpha in this study was 0.76, also indicating satisfactory reliability.

The General Family Functioning Scale (GFFS) was developed by Epstein *et al.* (1983) from the McMaster Family Assessment Device. The original scale contains twelve statements about the structural, organisational and transactional characteristics of the family. Ma *et al.* (2009) shortened it to nine items (four positive and five negative statements) for use in a Chinese population. Parents in this study were asked to rate how well each statement described their family, on a four-point Likert scale (1 = strongly agree to 4 = strongly disagree). Higher scores indicated healthier family functioning. In analysis, answers to negative statements were re-coded in the opposite direction. The cut-off point between 'healthy' and 'unhealthy' functioning is 2.0 for the full scale. The translated and modified GFFS has been shown to be reliable (Cronbach's alpha = .75) (Ma *et al.*, 2009). Its reliability in this study was high (Cronbach's alpha = .83).

The Perceived Social Support Scale (PSS) was modified from Ma's scale (1996), which measured cancer patients' perceived social support, both overall and four subtypes (emotional, informational, affiliation and tangible), from three sources (family, friends and medical professionals). Ma's scale (1996) had high reliability (Cronbach's alpha ranging between .83 and .90). The modified scale comprised five subscales measuring PSS, both overall and four subtypes, from four sources (family, friends, medical services and social services), with high internal consistency (Ma, 1996). Parents responded on a four-point Likert scale (1 = strongly dissatisfied/not helpful at all to 4 = strongly satisfied/very helpful). Higher scores denoted greater satisfaction or helpfulness. The reliability of the PSS-overall scale (Cronbach's alpha = .96) and of the four subscales in this study was highly satisfactory: family (Cronbach's alpha = .89), friend (Cronbach's alpha = .95), medical service providers (Cronbach's alpha = .88) and social service providers (Cronbach's alpha = .94).

Data analysis

Descriptive data were summarised by frequency, percentage, means and standard deviation. A Chi-square test was used to assess whether the socio-demographic characteristics of the participants in the CG differed

from those of the EG participants. *T*-tests were used to analyse whether the EG and the CG were comparable clinical samples.

A group x time mixed-model (MM) ANOVA was performed for all the outcome measurements (BSI, PCR, PSI, PSOC, GFFS and PSS) to examine both the time effects of the intervention and the effects of intervention types. Post hoc *T*-tests were conducted to compare the mean scores of the different scales at T1, T2 and T3, and between the groups, to find out whether there were significant differences. Further analysis was made to investigate whether the varying effect of the MFT on the outcome measures was due to two confounding variables, namely medication and educational level. Depressed parents of different levels of education were categorised into three groups for analysis: high (university or above), middle (senior secondary education) and low (junior secondary school and primary school).

Results of the study

In the pre-treatment phase, the results of the *T*-test found no significant difference between the depressed parents of EG and the CG in terms of parent-child relationship, parental competence, family functioning, parenting stress and perceived social support, indicating that their familial variables were clinically comparable. However, the BSI-overall ($t = -2.466, p < .05$), anxiety ($-2.175, p < .05$) and depression ($-2.671, p < .05$) of the EG were higher than the same variables in the CG, showing that the EG parents were psychologically more distressed than the CG parents (Table 2).

Effects of treatment

The results of (MM) ANOVA analysis showed no significant main effect of time or group, or interaction effect of time and group on outcome measures (parent-child relationship, parental competence, family functioning, parenting stress and perceived social support). Notably, the effect size of the difference of the improvement on BSI-overall, and the anxiety and depression subscales achieved by the two groups at follow-up test, were moderate (with Cohen's $d = .38, .39, .51$) (Table 3) (Cohen, 1988), suggesting the EG parents' substantial improvement in depression and anxiety, compared with the CG parents.

However, a main effect of time on the depressed parents' psychological distress and its subscales was found. The results of post hoc analysis found a significant time effect in the EG only (Table 3). The

TABLE 2 The comparison between the experimental group and control group of parents with depression at the baseline

	Control Group		Experimental Group		t	df	two-tails significance
	Mean	(SD)	Mean	(SD)			
BSL_Overall	1.19	(.67)	1.66	(.79)	-2.466	59	.017
BSL_Anxiety	1.36	(.85)	1.88	(.97)	-2.175	59	.034
BSL_Somatization	1.00	(.59)	1.36	(.84)	-1.957	58	.055
BSL_Depression	1.19	(.69)	1.75	(.92)	-2.671	59	.010
Parent-Child Relationship	3.49	(.72)	3.44	(.65)	.268	59	.789
Parental Sense of Competence	3.04	(.48)	3.00	(.58)	.282	59	.779
Satisfaction	2.60	(.42)	2.58	(.57)	.138	59	.891
Efficacy	3.38	(.74)	3.34	(.89)	.162	59	.871
Family Function	2.59	(.44)	2.49	(.46)	.834	55	.408
Parenting Stress	3.72	(.93)	3.92	(.65)	-.982	58	.330
Perceived Social Support	2.82	(.46)	2.80	(.51)	.151	58	.880
PSS_family	2.69	(.75)	2.55	(.72)	.676	51	.502
PSS_friend	2.83	(.47)	2.77	(.64)	.396	46	.694
PSS_medical	2.88	(.40)	2.88	(.48)	-.051	52	.960
PSS_social	2.96	(.46)	2.91	(.60)	.357	56	.722

TABLE 3 Effects of treatment on experimental group and control group

	Experimental Group (N = 34)		Control Group (N = 27)		Between Group Comparison	
	Mean (SD)	Within-Group Comparison (p value)	Mean (SD)	Within-Group Comparison (p value)	p value	Effect size (Cohen's d)
BSL Overall						
Baseline	1.66 (.79)		1.19 (.67)			
Post-test	1.29 (.89)	**	.88 (.52)	**	ns	.15
Follow-up test	1.04 (.64)	**	.88 (.59)	ns	ns	.38
Overall time effect		*		ns		
BSL A						
Baseline	1.88 (.97)		1.36 (.85)			
Post-test	1.38 (1.02)	**	1.02 (.64)	*	ns	.24
Follow-up test	1.16 (.80)	*	1.06 (.72)	ns	ns	.39
Overall time effect		*		ns		
BSL S						
Baseline	1.36 (.84)		1.00 (.59)			
Post-test	1.09 (.85)	*	.68 (.51)	**	ns	.07
Follow-up test	.85 (.66)	**	.63 (.59)	ns	ns	.08
Overall time effect		*		ns		
BSL D						
Baseline	1.75 (.92)		1.19 (.69)			
Post-test	1.39 (1.02)	*	.92 (.60)	*	ns	.14

(Continues)

TABLE 3 (CONTINUED)

	Experimental Group (N = 34)		Control Group (N = 27)		Between Group Comparison	
	Mean (SD)	Within-Group Comparison (p value)	Mean (SD)	Within-Group Comparison (p value)	p value	Effect size (Cohen's d)
Follow-up test	1.11 (.73)	**	1.15 (.76)	ns	ns	.51
Overall time effect		*		ns		
Parent-Child Relationship						
Baseline	3.44 (.65)		3.49 (.72)			
Post-test	3.49 (.59)	ns	3.51 (.70)	ns	ns	.09
Follow-up test	3.51 (.63)	ns	3.31 (.57)	ns	ns	.19
Overall time effect		ns		ns		
Parental Sense of Competence						
Baseline	3.00 (.58)		3.04 (.48)			
Post-test	2.93 (.42)	ns	3.04 (.39)	ns	ns	.12
Follow-up test	3.06 (.37)	ns	2.95 (.26)	ns	ns	.21
Overall time effect		ns		ns		
Family Functioning						
Baseline	2.49 (.46)		2.59 (.44)			
Post-test	2.51 (.48)	ns	2.55 (.45)	ns	ns	.02
Follow-up test	2.54 (.50)	ns	2.47 (.36)	ns	ns	.09
Overall time effect		ns		ns		

(Continues)

TABLE 3 (CONTINUED)

	Experimental Group (N = 34)		Control Group (N = 27)		Between Group Comparison	
	Mean (SD)	Within-Group Comparison (p value)	Mean (SD)	Within-Group Comparison (p value)	p value	Effect size (Cohen's d)
Parenting Stress						
Baseline	3.92 (.65)		3.72 (.93)			
Post-test	3.74 (.88)	ns	3.64 (.91)	ns	ns	.15
Follow-up test	3.49 (.84)	ns	3.45 (.58)	ns	ns	.25
Overall time effect		ns		ns		
Perceived Social Support						
Baseline	2.80 (.51)		2.82 (.46)			
Post-test	2.81 (.42)	ns	2.84 (.37)	ns	ns	.05
Follow-up test	2.90 (.37)	ns	2.93 (.31)	ns	ns	.18
Overall time effect		ns		ns		

*BSL_A: BSL Anxiety, BSL_S: BSL Somatization, BSL_D: BSL Depression; PSOC: Parental Sense of Competence; PSS: Perceived Social Support; 3. Time effect: independent repeated measures ANOVA showed overall significant time effect on BSI and the three subscales in EG, but not in CG; 4. within-group comparison shows the results of post-hoc analysis of "post-test vs. baseline comparison" and "follow-up test vs. baseline comparison". *p < .05; **p < .01; ***p < .001.*

significant effect of time on BSI-overall ($F = 4.728, p < .05$), anxiety ($F = 3.709, p < .05$), somatisation ($F = 5.276, p < .05$) and depression ($F = 4.928, p < .05$) of the EG pointed to significant improvement in the EG parents' psychological distress after MFT. The results of the post hoc test showed that the EG parents' level of psychological distress in all dimensions had significantly improved from the pre-treatment phase (T1) to the completion of the MFT intervention (T2) and at 3-month follow-up (T3) (Figure 3). No significant time effect on the symptoms of the CG parents was found, that is, after they had attended the two relaxation workshops (Figure 3).

Parents who were on medication experienced reduced distress in BSI-overall ($F = 4.469, p < .05$), anxiety ($F = 3.461, p < .05$), somatisation ($F = 5.367, p < .05$) and depression ($F = 3.761, p < .05$). The results of the post hoc test showed that there were significant differences between the mean scores of BSI-overall, anxiety, somatisation and depression in the pre-treatment phase and the post-treatment phase. Similarly, the mean scores of the BSI-overall and the three subscales in the pre-treatment phase significantly differed from those at 3-month follow-up.

For parents not on medication, the positive effects of the MFT were found only on anxiety ($F = 4.700, p < .05$) and depression ($F = 4.808, p < .05$), indicating that they had become less anxious and less depressed after the MFT intervention. The results of the post hoc test showed that the mean scores of anxiety and of depression in the pre-treatment phase significantly differed from those at post-treatment as well as from those at 3-month follow-up.

Educational attainment had significant interaction effects with MFT on psychological distress. Specifically, the change of anxiety, somatisation and depression after MFT was statistically significant for parents who had completed at least senior secondary school. Parents with a senior-secondary education (or more) also experienced reduced distress on the BSI-overall.

No statistically significant effects of time on PCR, PSC, GFFS, PS and PSS were found for the EG and the CG (Table 3).

Parent-child relationship

Both the EG and the CG parents had fair relationships with their children, with overall mean scores approaching 3.5 (out of 5) for both the EG ($M = 3.44, SD = .65$) and the CG ($M = 3.49, SD = .72$) at the pre-treatment phase (Table 2). The results of (MM) ANOVA showed that the change in parent-child relationship for both the EG and the CG was statistically insignificant (Table 3).

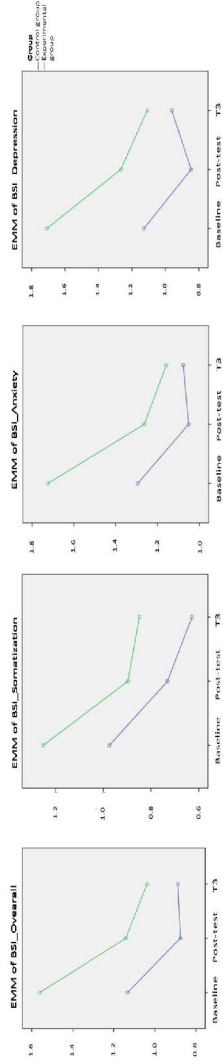


Figure 3. The estimated marginal means (EMM) on brief symptom inventory (BSI) and its subscales.

Parenting efficacy

Parents of both groups had relatively good parenting efficacy ($M = 3.34$, $SD = .89$ for the EG and $M = 3.38$, $SD = .74$ for the CG) but moderate satisfaction in parenting (with $M = 2.58$, $SD = .57$ and $M = 2.60$, $SD = .42$ for the EG and CG) at the pre-treatment phase (Table 2). (MM) ANOVA showed that the change in parenting efficacy was statistically insignificant at post-treatment and at 3-month follow-up (Table 3). However, a significant change in parenting efficacy was found for the highly educated parents in the EG ($F = 3.532$; $p < .05$) after the MFT intervention.

Parenting stress

Parents of both the CG and EG had had similarly high parenting stress, with baseline mean scores approaching 4 (i.e. 'agree') on the Likert scale ($M = 3.93$, $SD = .65$ for the EG and $M = 3.72$, $SD = .93$ for the CG) (Table 2), which was higher than that of average Hong Kong Chinese parents (Ma *et al.*, 2009). The change in parenting stress was statistically insignificant at the post-treatment phase and at 3-month follow-up, except for the highly educated parents ($F = 5.170$, $p < .05$). Parenting stress of the highly educated parents decreased from the pre-treatment phase ($M = 3.33$; $SD = .50$) to the post-treatment phase ($M = 2.92$; $SD = .72$) (t -value (13) = 2.545; $p < .05$).

Family functioning

Parents of both the EG and CG had moderate levels of family functioning, with $M = 2.49$, $SD = .46$ for the EG and $M = 2.59$, $SD = .44$ for the CG at the pre-treatment phase (Table 2). No significant change in family functioning was found between the EG and the CG at post-treatment or at 3-month follow-up. No effect of time was found for the CG or the EG (Table 3). However, further analysis revealed that for EG depressed parents not on medication, family functioning improved ($F = 4.107$; $p < .05$) after completing MFT; the post hoc test showed that the mean score of family functioning in the pre-treatment phase ($M = 2.25$; $SD = .42$) significantly differed from the same score at 3-month follow-up ($M = 2.68$; $SD = .36$) (t -value (14) = -2.575; $p < .05$).

Perceived social support

In the pre-treatment phase, the EG parents' PSS from family was lower than their PSS from friends, medical service or social services (Table 2). Parents of both the CG and EG were moderately satisfied

with social support they received from the three sources (friend, medical and social services), with the means approaching 3 (out of 4). Nevertheless, no significant difference in PSS, whether overall or from any of the four sources, was found between the CG and the EG in the pre-treatment phase (Table 2).

The results of (MM) ANOVA showed that for depressed parents of the EG and the CG, changes in PSS-overall and in PSS of different sources and types were statistically insignificant (Table 3). However, time did have an effect on the EG parents' perceived emotional support from family ($F = 3.756$; $p < .05$), indicating that the depressed parents perceived increased emotional support from their family after MFT.

For parents not on medication, MFT had a positive effect on their PSS from social services ($F = 4.589$; $p < .05$), which was significantly increased from the pre-treatment phase ($M = 2.74$; $SD = .38$) to 3-month follow-up ($M = 3.10$; $SD = .52$) (t -value (12) = -2.687 ; $p < .05$).

Highly educated parents of the EG experienced increased PSS-overall ($F = 3.521$; $p < .05$), PSS from social service ($F = 3.694$; $p < .05$) and PSS-affiliation ($F = 3.730$; $p < .05$) after MFT.

Discussion

This study has shown that MFT is an evidence-based treatment for Hong Kong Chinese parents with depression. Our study is a successful collaboration between a university research team and a team of community-based mental health social workers in launching a family-centred intervention for this clientele. Our research team designed the project, actively adapted the chosen model of MFT and applied it to two groups, provided training and carried out the outcome study. Knowledge and skills pertinent to the practice of MFT were transferred to the social workers through multiple means (Figure 1). This built up the professional competence of these social workers, who subsequently led six of the groups.

Despite positive subjective feedback from the EG depressed parents, no significant difference in regard to the effect of MFT on the outcome measures was found between the EG and the CG; hence the results did not support our hypotheses. These results of our study may be attributed to the small samples and/or to the EG's high non-response rate and the CG's high drop-out rate; the latter is a commonly observed phenomenon in clinical studies on depression (Lemmens *et al.*, 2009).

Nevertheless, a significant time effect of the MFT on psychological distress was found for the EG, though not for the CG. After receiving

MFT, the psychological distress of the EG depressed parents decreased; this positive change was statistically significant and was sustained at 3-month follow-up. The time effect may partly be explained by the baseline difference between the EG and the CG. It makes sense that the more distressed group might improve more than the healthier group did. As in Lemmens *et al.*'s study (2009), this research outcome is preliminary evidence to illuminate the effect of MFT on symptom reduction for depressed parents. After MFT, the depressed parents' symptoms were less serious.

The EG parents who had finished senior secondary school or above experienced greater symptom reduction after MFT, compared with parents with only a primary-school or junior-secondary-school education. In addition, the highly educated parents' parenting stress decreased; their parenting efficacy increased; and their perceived social support – overall, from social services, and affiliation support – was higher. This positive outcome for these highly educated depressed parents may be explained by the fact that more of the highly educated depressed parents came to join the MFT as couples, indicating that they were determined to deal with their family challenges together. In Hong Kong, family solidarity and family resources are directly related to education level (Wong *et al.*, 2020). Family problems faced by poorly educated depressed parents might be more complex and tangible (e.g. financial or legal) than those of highly educated parents. Poorly educated parents might need other social services (e.g. welfare subsidies) alongside MFT to ameliorate their pain and suffering.

About 67.6% of our clinical sample was on medication (Table 1). Compared with parents not on medication, their psychological state was better in the post-treatment phase and at 3-month follow-up. Nevertheless, after going through MFT, parents not on medication were less anxious and less depressed, with better family functioning and higher levels of perceived social support. The positive changes in these depressed parents not on medication may be due to the fact that their symptoms might have been so mild that they did not require medication, and the effects of depression on their family life might thus have been less serious.

It is encouraging to see that the EG depressed parents experienced increased emotional support from family after the MFT intervention because their perceived family support had been the lowest among the four sources of support at pre-treatment, which is quite uncharacteristic of Chinese people's perception of family support during sickness (Ma, 1996).

Limitations of the study

Despite the contributions of this study, it does have limitations: (a) the views of MFT reported in this paper come only from the depressed parents. Analysis of data collected from the spouse without depression and from the children is underway; (b) the clinical sample was small, with a low response rate from the EG and a high drop-out rate in the CG. The results of the data might therefore be biased, since only those who had completed the questionnaire at T1, T2 and T3 were analysed; (c) assignment of the depressed parents into the CG or the EG was not based on a randomised control trial (RCT), which weakens the external validity of this study; and (d) other treatment information such as the number of psychiatric consultations, re-hospitalisations and the numbers of suicide attempts was not collected.

If time and resources permit, researchers should employ RCT in their future studies with a larger clinical sample. More sophisticated study designs could resolve critical issues such as multi-treatment effects of depression (e.g. MFT versus medication) on treatment outcomes. Incentives such as cash coupons could be offered to parents to increase their response rate. Efforts should be made to gather critical treatment information such as the number of psychiatric consultations, re-hospitalisations and the suicide rate.

Clinical implications of the study

Even though empirical evidence on the between-group comparison is not compelling in this study, psychological distress of the depressed parents in the EG did decrease over time. Given that this is the first clinical study of its kind in Hong Kong, MFT interventions for parents with depression can be refined on the basis of this study.

As highly educated parents gained more from MFT than did poorly educated parents, more efforts should be made to foster mutual help and support among parents with different education levels through experiential inter-familial group activities. For example, an 'interactive radio programme' or parent sharing can provide a safe haven for parents to disclose their personal vulnerabilities (e.g. self-harming) and family difficulties (e.g. parenting) and exchange ways of overcoming these problems. In addition to MFT, an intensive case management service should be offered to poorly educated depressed parents.

The parents and the children liked the outdoor activities held on our campus, which is spacious and full of trees, a big contrast to their

overcrowded urban homes. Future therapists should consider holding MFT in rural campsites where outdoor family activities can be easily organised.

Most importantly, the research outcomes of this study underscore the importance of transferring clinical knowledge through training and mentoring to mental-health social workers, who in turn can provide MFT for depressed parents in the community.

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